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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/683,707	10/14/2003	Shih-Tzung Fan	MR957-1405	9919

4586 7590 07/28/2005

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EXAMINER	
WOLFE, DEBRA M	

ART UNIT	PAPER NUMBER
3725	

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

C

Office Action Summary	Application No. 10/683,707	Applicant(s) FAN, SHIH-TZUNG	
	Examiner Debra Wolfe	Art Unit 3725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-6* is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 October 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance:

1. It is the opinion of the examiner that the art of record (considered as a whole) neither anticipates nor renders obvious "a first planetary gear device arranged in an upper portion of the shell; the planetary gear device including:...(5) a pair of clutch devices for releaseably securing the upper rotary support to the fixing block of the central toothed shaft so that upper support can be directly made to rotate by the central toothed shaft; the clutch device being arranged under a clutch seat secured to the upper rotary support; and a second planetary gear device arranged under the first planetary gear device; the second planetary gear device including: (1) a central toothed shaft connected with the upper rotary support of the first planetary gear device; the central toothed shaft having gear teeth around a lower end thereof; (2) a fixed sun gear fixedly disposed around the central toothed shaft; the sun gear having gear teeth on an inner side thereof, (3) a plurality of planet pinions rotary on respective shafts and engaged with the gear teeth of the central toothed shaft and the sun gear; (4) a lower rotary support for supporting the shafts of the planet pinions thereon; the lower rotary support having gear teeth around a lower end thereof; the toothed lower end of the lower rotary support being engaged with the gear rack; (5) a brake device for releaseably blocking rotation of the actuating gear of the first planetary gear device so that the actuating gear can function as a sun gear; thereby being capable of making the first planetary gear device stop functioning, and the upper rotary support rotated at a same speed as the central toothed shaft of the first planetary gear device during a return stroke of a pipe feeding cycle after the clutch devices are switched to a clutching position, and after the brake device is

switched to a releasing position, and thereby allowing the first planetary gear device to function together with the second planetary gear device to increase torque output during a forward feeding stroke of a pipe feeding cycle after the clutch devices are switched to a releasing position, and after the brake device is switched to a braking position" in combination with the rest of the claimed limitations set forth in the independent claim.

Further searching by the examiner yielded additional prior art as follows:

2. Sabine (U.S. Patent # 5,343,725) and Stange et al. (U.S. Patent # 4,765,168) disclose the state of the art. Chen et al. (U.S. Patent # 5,685,796) discloses a planetary gearing unit for use in medium and heavy cutting machine tool gearboxes. Hale (U.S. Patent # 2,251,625) discloses a change speed system comprising of a clutch, and two brakes attached to a gear unit with a drive and driven shaft. Eckert (U.S. Patent # 6,605,019 B1) discloses a switching device of a two-stage planetary gear for use in tool machine drives for turning, milling, and machining centered Industries.

3. However the above cited prior art fails to disclose a two-stage planetary gear device where the first planetary gear device includes "a pair of clutch devices for releaseably securing the upper rotary support to the fixing block of the central toothed shaft so that upper support can be directly made to rotate by the central toothed shaft; the clutch device being arranged under a clutch seat secured to the upper rotary support; and a second planetary gear device arranged under the first planetary gear device; the second planetary gear device including: (1) a central toothed shaft connected with the upper rotary support of the first planetary gear device; the central toothed shaft having gear teeth around a lower end thereof; (2) a fixed sun gear fixedly disposed around the central toothed shaft; the sun gear having gear teeth on an inner side thereof,

(3) a plurality of planet pinions rotary on respective shafts and engaged with the gear teeth of the central toothed shaft and the sun gear; (4) a lower rotary support for supporting the shafts of the planet pinions thereon; the lower rotary support having gear teeth around a lower end thereof; the toothed lower end of the lower rotary support being engaged with the gear rack; (5) a brake device for releaseably blocking rotation of the actuating gear of the first planetary gear device so that the actuating gear can function as a sun gear; thereby being capable of making the first planetary gear device stop functioning, and the upper rotary support rotated at a same speed as the central toothed shaft of the first planetary gear device during a return stroke of a pipe feeding cycle after the clutch devices are switched to a clutching position, and after the brake device is switched to a releasing position, and thereby allowing the first planetary gear device to function together with the second planetary gear device to increase torque output during a forward feeding stroke of a pipe feeding cycle after the clutch devices are switched to a releasing position, and after the brake device is switched to a braking position." Therefore, it is the examiner's opinion that the present invention is patentable based on claims 1-6.

Conclusion

This application is in condition for allowance except for the following formal matters:

Minor errors in the order of words exist through out the disclosure.

1. The examiner suggests switching the order of the terms "force output" and "torque output" such that it reads "output force" and "output torque".

Figures 2 and 3 do not properly disclose the information stated within the specification.

1. In the Brief Description of the Drawings section the applicant states "Fig.2 is a vertical section of the pipe feeding mechanism of the present invention, functioning to transmit power from the power source (1), Fig. 3 is a vertical section of the pipe feeding mechanism of the present invention, functioning to transmit power from the power source (2)", however when referring to Figures 2 and 3 there is no showing of the different drive stages.

2. In the Detailed Description of the Preferred Embodiments section the applicant states, "...and the pipe feeding mechanism 1 can be moved at low speed and with great force along the gear rack 101 during the forward feeding stroke thereof, as shown in Fig.2" (see page 9, line 2), and "Consequently, the pipe feeding mechanism 1 can move along the rack 101 at a higher speed during a return stroke, as shown in Fig. 3" (see page 9, line 20), however, Figures 2 and 3 are exact replicas of Figure 1 which is stated to be "a vertical section of the pipe feeding mechanism of an automatic pipe bender according to the present invention."

3. The examiner suggests the following amendments to the application:

    1. Remove Figures 2 and 3 from the application,
    2. Remove the references of Figures 2 and 3 from the Brief Description of the Drawings from the specification, and
    3. Remove the references of Figure 2 " as shown in Fig. 2" (page 9, line 2) and Figure 3 " as shown in Fig. 3" (page 9, line 20) from the specification.

There is no relevance of Figures 2 and 3 to the claims of the invention therefore it is unnecessary to include these figures in the disclosure.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Debra Wolfe whose telephone number is (571) 272-1904. The examiner can normally be reached Monday - Friday 6am - 3:30pm with alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris Banks can be reached at (571) 272-4419. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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